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Agricultural Drainage Management Coalition
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Mr. Chairman, Mr. Peterson, and the rest of the Subcommittee Members, I thank you for holding this hearing and allowing me to testify today.

Several of you from other regions around the country may not be aware that much of the cropland in the Upper Mississippi drainage basin is tiled and drained from beneath the surface. Minnesota, Iowa, Illinois, Ohio, and Indiana farmers simply could not be as productive today without tiles and drains under their fertile cropland. Today, in addition to representing my employer, Prinsco Incorporated, I'm representing a number of other companies that specialize in making and installing water drainage products. I am pleased to tell you that we are in the process of forming a coalition to support and promote landowners' use of more effective drainage management technology through USDA's conservation programs.

I would like to explain what I mean when I use the word drainage. In agricultural applications we define the word drainage as removal of excess water from the soil surface and the shallow subsurface. I want to make clear that modern water management for agricultural production focuses on the management and enhancement of existing drainage systems to benefit water quality and the profitability of agric ulture not the drainage of wetlands.

Historically, drainage in the United States has occurred in two primary developmental stages, 1870-1920 and 1945–1960. By 1920, more than 53 million acres

out of a total of 956 million acres of U.S. farmland had received some form of drainage. This figure rose to 109.7 million acres by 1985. A survey conducted by Ohio State in 1985 showed that 20% or 5,515,000 acres of Minnesota's cropland had been drained.

Farmers see a direct benefit to tiling their cropland. A study done by Paul Brown from Iowa State University showed that yield loss per acre due to very poor to poorly drained soil cost a farmer 45 bushels per acre for corn and 15 bushels per acre for soybeans. On an 80 acres field of corn this could cause a farmer to lose approximately $8,500. John Nieber, Professor of Biosystems & Agricultural Engineering from the University of Minnesota shows that the benefits of drainage are extensive. So extensive that 20 – 50% of all cropland in the corn/soybean belt has some form on drainage.

There is concern in areas of the Midwest of the degree in which agricultural drainage contributes to flooding. Presentations suggest that precipitation is the factor responsible for most of the variation in large-river flows including flows associated with Minnesota's most extreme flooding. Dr. Gary Sands, Extension Engineer in the Biosystems & Agricultural Engineering Department at the University of Minnesota says that tile drainage typically reduces both volume and peak of surface runoff from agricultural fields. Fields that have drainage tile act as a sponge, causing the water to soak into the field rather than allowing it to runoff. Because tile drainage tends to decrease peak runoff rates, this suggests that tile drainage should decrease the incident of flooding.

The Red River Valley poses unique challenges due to its lack of subsurface drainage. The primary focus of drainage in the Red River Valley has been through surface drains; these shallow ditches can contribute to flooding problems. Subsurface drainage provides water storage and decreases the incidence of flooding. Subsurface drainage has long been recognized by the NRCS and has not been utilized in the Red River Valley.

Earlier in my testimony I spoke of a coalition being formed to support and inform landowners of a more effective drainage technology through the USDA conservation programs. This form of drainage is referred to as controlled drainage, which allows the farmer to control the water table by holding water back during dry periods and releasing water when necessary. Controlled drainage is a practice that will become more common

in the upcoming years, because of its ability to reduce the nitrate flow to the Gulf of Mexico. Recognizing the problem that tiles and drains pose to water quality, the Agricultural Research Service (ARS) began researching control drainage technology and recently revealed its findings in an article that I have attached for your review. Basically, ARS has concluded that this system can help farmers increase their crop yields while substantially reducing nitrate leaching by up to 40 – 50 percent. The ARS believes, as we do that this system could revolutionize water management as well as play a critical and necessary part in reducing nitrates and possibly other agricultural pollutants now plaguing the Upper Mississippi drainage basin. I have attached for your review, a copy of the ARS article on this technology and its research results in certain areas.

Over the next month, NRCS and ARS will finish rewriting the EQIP practice standard to incorporate the new managed drainage research and the control drainage. We will be discussing with NRCS the cost-sharing arrangements that farmers would expect when they sign-up for this system.

Subsurface drainage is used to enhance the profitability of land that is already under agricultural production. Subsurface drainage does not violate Swapbusters. Instead, drainage systems help make agriculture more environmentally sound and sustainable. Modern water management for agricultural production focuses on the management and enhancement of existing drainage systems to benefit water quality and the profitability of agriculture.

Mr. Chairman, thank you for this opportunity to testify today and I look forward to our continued discussion about agricultural drainage. I would be pleased to answer any questions you or others may have.